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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,783	03/28/2006	Toru Onodera	023174-0157	5505
22428 7590 09/01/2010 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
LENIHAN, JEFFREY S				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
09/01/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,783

Applicant(s)

ONODERA ET AL.

Examiner

Jeffrey Lenihan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the amendment filed on 6/04/2010.
2. The objections and rejections not addressed below are deemed withdrawn.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/4/2010 has been entered.

Claim Rejections - 35 USC § 103

5. Claims 1 and 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinouchi et al, WO 2003/046080 (of record).
6. The rejection stands as per the reasons outlined in the previous Office Action, incorporated herein by reference. Regarding the amendment to claim 1, the limitation of the ratio of acid-containing block to the acid-free block is addressed in paragraph 17 of the Office Action mailed on 3/17/2009, incorporated herein by reference.

7. Claims 1 and 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano et al, WO 2002/091507.

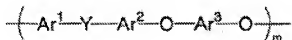
8. The rejection stands as per the reasons outlined in the previous Office Action, incorporated herein by reference. Regarding the amendment to claim 1, the limitation of the ratio of acid-containing block to the acid-free block is addressed in paragraph 20 of the Office Action mailed on 3/17/2009, incorporated herein by reference.

Response to Arguments

9. Applicant's arguments filed 6/4/2010 have been fully considered but they are not persuasive.

10. Regarding the allegedly unexpected results: The examiner disagrees with applicant's statement that the previous Office Action acknowledged that the cited results were unexpected. Paragraph 6 of the Office Action mailed on 12/07/2009 stated that the allegedly unexpected results were not demonstrated commensurate in scope with the claimed invention. The examiner did not state that the results cited by applicant were evidence of unexpected results.

11. Independent claim 1 states that the block containing an acid group corresponds to the following general formula

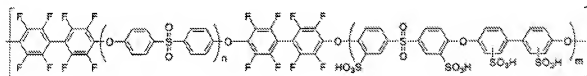


As currently written, the independent claim only requires that at least one of Ar¹ and Ar² has an acid group; the claim therefore reads on a structure wherein 1) an acid group is

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present only on one of either Ar¹ or Ar²-for example, a structure wherein Ar¹ has an acid group while both Ar² and Ar³ do not have acid groups; and 2) said acid group may be any acid.

12. Upon further review, the examiner maintains the position that the allegedly unexpected results are not commensurate in scope with the claimed invention. Applicant cites Example 2 in the specification, which discloses a block copolymer having the following structure:



As shown above, all of the aromatic rings in the block containing an acid group are modified with a sulfonic acid functionality. The cited example disclosing a block copolymer wherein the repeating unit of the acid-containing block comprises four aromatic rings, all of which are sulfonated, does not demonstrate that the allegedly unexpected results may be obtained from a block copolymer wherein only one of the aromatic rings in the above general formula contains an acid group. The independent claim further states that Y may be a carbonyl group; the cited example does not demonstrate that the allegedly unexpected results are obtained when the acid containing-block is a polyether ketone rather than a polyether sulfone, as allowed by both Hirano (Column 9, lines 41-56) and Kinouchi (¶0104-0105).

13. Regarding the comparison to the prior art Examples: The Examples of Hirano and Kinouchi do not disclose the use of a fluorinated reagent to link the blocks of their

respective block copolymers; the prior art block copolymers therefore do not contain the tetrafluorinated biphenyl linking groups shown in the structure of the block copolymer of Example 2 in the instant application. It is therefore unclear whether any differences between the prior art copolymers and the claimed invention result from this structural element, which is not required by the claims as currently written.

14. Additionally, it has been held that "a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments," *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.). "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments," *In re Susi* 440 F.2d 442, 169 USPQ 423 (CCPA 1971). (MPEP § 2123 [R-5]). The acid-containing blocks in the examples of Hirano and Kinouchi cited by applicant are both prepared via a reaction of bis(4-chlorophenyl)sulfone with a potassium salt of 4, 4'-biphenol; sulfonation is performed by dissolving the block copolymer in sulfuric acid and stirred at room temperature for 24 hours. This process results in a final polymer wherein only the aromatic rings in the unit derived from biphenol are sulfonated; the aromatic rings adjacent to the sulfone group are not sulfonated. However, as discussed in the previous Office Actions, both Hirano (Column 11, lines 20-32; reference claim 1) and Kinouchi (¶0111, reference claim 7) expressly disclose block copolymers wherein the acid group is present on at least one of the aromatic rings bonded to the sulfone/ketone group, corresponding to the claimed limitation that at least one of Ar¹ and Ar² in the general formula above has an acid group. Applicant therefore has not

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demonstrated that the allegedly unexpected results are obtained over the prior art commensurate in scope with the invention as currently claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Lenihan whose telephone number is (571)270-5452. The examiner can normally be reached on Monday through Thursday from 7:30-5:00 PM, and on alternate Fridays from 7:30-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/
Primary Examiner, Art Unit 1796

/Jeffrey Lenihan/
Examiner, Art Unit 1796

/JL/